2.4 IMPORTANT TERRESTRIAL HABITATS

As discussed in Section 2.1, PG&E controls approximately 12,000 acres of land north and south of DCPP known as the Diablo Canyon lands. These lands form a long relatively narrow strip comprised of gently sloping coastal marine terrace with steeply rising hills to the east. The Diablo Canyon lands extend approximately 14 miles from near the community of Avila Beach, north to the southern boundary of Monta*ña*~~no~~ de Oro State Park. They vary from about 0.5 miles to 1.75 miles in width.

2.5.1 PLANT SITE AND VICINITY

California Red-legged Frog – *Rana draytonii*

The California red-legged frog is now found primarily in wetlands and streams in coastal drainages of central California. It has been extirpated from 70 percent of its historical range (Reference ~~189~~*184*).

California red-legged frogs typically lay eggs between December and early April. Eggs hatch within 6 to 14 days depending on water temperatures and require approximately 20 days to develop into tadpoles. Tadpoles, in turn, require anywhere between 11 to 20 weeks to develop into terrestrial frogs. Water bodies suitable for tadpole rearing must remain watered at least until the tadpoles metamorphose into adults, typically between July and September. Adult California red-legged frogs can survive in moist upland areas after breeding habitat has dried, and can live several years to make new breeding attempts (Reference ~~189~~*185*).

The California red-legged frog was listed as federally threatened in May 1996 *(Reference 184)*. In addition, critical habitat was designated for the species in April 2006 (Reference ~~190~~*185*), and expanded in March 2010 (Reference ~~191~~*186*). California red-legged frog is threatened by a wide variety of human impacts includ*ing*~~ed~~ urban encroachment, construction of reservoirs and water diversions, introduction of exotic predators and competitors, livestock grazing, and habitat fragmentation (Reference ~~189~~*184*).

2.5.1 PLANT SITE AND VICINITY

Aquatic Listed Species

Entrainment, impingement, and thermal effects studies are discussed in Sections 4.2 through 4.~~4~~5. Because the NRC is responsible for licensing nuclear power plants to operate, it is their responsibility under Section 7(a)(2) of the ESA to request consultation on the take of listed species during the operation of DCPP. The NMFS issued a biological opinion on the effects of continued operation of DCPP on federally listed aquatic species subsequent to formal consultation with the NRC (Reference 24). The biological opinion evaluated direct and indirect effects of DCPP operations over a study area including DCPP facilities, the intake and discharge structures, and the region where the discharge of warmed water extends. Additionally, the biological opinion issued terms and conditions for the minimization of incidental take of federally listed sea turtles discussed below associated with power plant operation.

2.5.1 PLANT SITE AND VICINITY

Green Sea Turtle - *Chelonia mydas*

There have been 14 total occurrences of a green sea turtle found stranded in the forebay of the DCPP intake structure throughout the history of the plant. The turtles were discovered on the ocean surface inside the concrete intake curtain wall, which extends approximately 8 ft below MSL, in front of the debris exclusion bar racks. They apparently become stranded inside the concrete intake curtain wall because they cannot initiate a steep enough dive angle to exit beneath the curtain wall and return to the open intake cove; they do not actually ~~been~~ *become* impinged on the intake structure bar racks. On each occasion, the turtles appeared unharmed and uninjured, and swam freely once returned to the open ocean. Stranding of green sea turtles within the intake structure at DCPP has never resulted in a green sea turtle mortality or injury, and there has never been an instance of sea turtle impingement against the bar racks at DCPP due to the low uniform intake approach velocity.

2.5.2 TRANSMISSION LINE CORRIDORS

The discussions regarding transmission lines were not amended. In accordance with the revised GEIS (NUREG-1437, Revision 1~~, Reference 8~~), since the transmission lines discussed in the FES would remain energized regardless of a license renewal decision, the transmission lines that connect the DCPP switchyard to the regional transmission system are no longer in the scope of the license renewal environmental review. These transmission lines are now a critical part of PG&E's high voltage transmission system, providing other services in addition to those related to DCPP. The only transmission lines remaining in the scope of the license renewal environmental review are those from the DCPP power block to the DCPP switchyard. Therefore, the below discussions regarding the DCPP transmission lines that connect the DCPP switchyard to the transmission system are provided for historical purposes and are not updated.

2.7 TAXES

For the 2010-11 fiscal year, 53.5 percent of the DCPP property tax payment was ~~been~~ allocated to county school services, county community college, and county Unified School Districts (Reference 148).

2.8 LAND USE PLANNING

As shown in Table 2.8-1, over the same period, 2000 to 2010, the number of housing units in San Luis Obispo County increased by 14.7 percent, and the number of housing units in Santa Barbara County increased by 7.0 percent, while the total number of units in the state increased by 12.0 percent. Median home values increased ~~7.3~~*95.3* percent in San Luis Obispo County, while values increased ~~14.9~~*64.6* percent in Santa Barbara County. The vacancy in San Luis Obispo and Santa Barbara Counties increased significantly from 2000 to 2010. Santa Barbara County had the highest change in vacancy of approximately 70.9 percent in 2010 (References 90 and 144).

2.8.1 EXISTING LAND USE TRENDS

Land use planning in San Luis Obispo County is guided by the Department of Planning and Building. The Agency has developed a land use plan, the Comprehensive Plan for San Luis Obispo County, to assess current land use trends and guide future land use decision-making. As shown in Table 2.8-1, there are approximately ~~102,275~~*117,315* home~~s~~ sites within San Luis Obispo County (Reference *144*~~88~~).

Santa Barbara County covers 3,789 square miles of total area; 2,737 square miles is land and 1,052 square miles is water. Land use planning in Santa Barbara County is guided by the Department of Planning and Development. The Agency has developed a land use plan, the Comprehensive Plan for Santa Barbara County, to assess current land use trends and guide future land use decision-making. As shown in Table 2.8-1, there are approximately ~~142,901~~*152,832* home sites within Santa Barbara County
(Reference ~~88~~*144*).

2.13.5 SOILS

Prime Farmland Soils

Natural Resources Conservation Service (NRCS) maps show no areas of prime farmland ~~in~~ *on* the DCPP ~~vicinity~~ *site* (Reference 177 *and 200*).

2.13.6 MINERAL RESOURCES

Mineral rights in the DCPP lands are owned by PG&E. According to the ~~1989~~ *2011* California Division of Mines and Geology Mineral Resources survey of southwestern San Luis Obispo County, the ~~DCPP~~ *greater portion of the Diablo Canyon* lands are classified as Mineral Resources Zone – 1 (MRZ-1) *with smaller areas classified as MRZ-3* (Reference 178). MRZ-1 is applied to areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This designation is assigned when well-developed lines of reasoning, based on economic and geologic principles, and adequate data have demonstrated that the likelihood for occurrence of significant mineral deposits is nil or slight. *MRZ-3 classifies areas containing known or inferred aggregate resources of undetermined significance. No land area within the Diablo Canyon lands property is classified as MRZ-2, or designated to be of statewide or regional significance (Reference 178).*

2.14 REFERENCES

45. ~~Montano~~*Montaña* de Oro State Park General Plan, California State Park and Recreation Commission, June 1988.

178. *Update of* Mineral Land Classification: Portland Cement Concrete Aggregate and Active Mines of all other Mineral Commodities in the San Luis Obispo–Santa Barbara Production-Consumption Region, *California, Special Report 215.*~~1989. R.V. Miller, J. Wiedenheft-Cole, and J. P. Clinkenbeard. 1989. California Department of Mines and Geology (now the California Geological Survey) Special Report 162.~~ *California Department of Conservation, 2011.*

184. ~~Endangered and Threatened Wildlife and Plants: Endangered or Threatened Status for Five Plants and the Morro Shoulderband Snail from Western San Luis Obispo County, California. U.S. Fish and Wildlife Service, Dept. of the Interior. Federal Register / Vol. 59, No. 240, pp 64613 - 64623.~~*Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-Legged Frog. U.S. Fish and Wildlife Service, Dept. of the Interior. Federal Register / Vol. 61, No. 101, pp 25813 - 25833.*

185. ~~Recovery Plan for the Morro Shoulderband Snail and Four Plants from Western San Luis Obispo County, California. U.S. Fish and Wildlife Service, Dept. of the Interior. 1998~~*Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Red-Legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities. U.S. Fish and Wildlife Service, Dept. of the Interior. Federal Register / Vol. 71, No. 71, pp 19244 - 19346.*

186. ~~Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the Morro Shoulderband Snail (*Helminthoglypta walkeriana*). U.S. Fish and Wildlife Service, Dept. of the Interior. Federal Register / Vol. 66, No. 26, pp 9233 - 9246.~~*Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the California Red-Legged Frog. U.S. Fish and Wildlife Service, Dept. of the Interior. Federal Register / Vol. 75, No. 51, pp 12816 - 12959.*

200. *San Luis Obispo County Important Farmland 2010. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. July 2013.*

TABLE 2.13-1

GENERAL DESCRIPTIONS AND CHARACTERISTICS OF THE GEOLOGIC FORMATIONS

Formation Name	Lithographic Description	Location	Age
Alluvial deposits	*Unconsolidated gravel, sand, silt, and clay*	*Only at the bottom of Diablo Canyon*	*Quaternary*
Landslide deposits	*Lithology dependent on source material*	*Along the access road at the base of Green Peak and at the OSG Storage Facility*	*Quaternary*
Marine terrace deposits	*Unconsolidated gravel, sand, silt, and clay commonly overlain by alluvial fan and colluvial deposits*	*Along the shoreline above the sea cliffs between Morro Bay and Avila Beach*	*Quaternary*
Marine sediments	*Unconsolidated marine sands and silts on the continental shelf*	*Offshore of the plant*	*Quaternary*
Sand wave deposits	*Dune-like sand deposits typically less than 50 cm thick mobilized by large storm surges*	*Offshore of the plant*	*Quaternary*
Monterey Formation	*Chert with siliceous and dolomitic siltstone, tuffaceous sandstone, diatomite, and opaline and rocelaneus shale*	*Along the top of the ridgeline above the plant site from just below Hill 914 to Green Peak and eastward*	*Tertiary, Miocene*
Obispo Formation	*Contains variable deposits and intrusions of diabase; tuffaceous and diatomaceous sandstone and silty sandstone; and resistant zeolitized tuff*	*Both sides of Diablo Canyon, the sea cliffs, the lower three-quarters of the north and south sides of Green Peak*	*Tertiary, Miocene*
Pismo Formation	*Massive white to tan, medium to coarse-grained sandstone*	*A small outcrop in the plant area*	*Tertiary, Pliocene*

TABLE 2.13-2

HISTORICAL RECORDED EARTHQUAKES (1973 THROUGH 2013), 100-MILE RADIUS FROM DCPP SITE

Year	Month	Day	Time (hh:mm:ss) UTC	Latitude	Longitude	Magnitude	Depth (Kilometers below surface)
1983	5	2	18:42:37	36.218	-120.305	6.3	10.0
1983	7	21	21:39:53	36.228	-120.416	6.0	9.2
1985	8	4	07:01:58	36.135	-120.110	6.0	15.0
2003	12	22	14:15:58	35.620	-121.070	6.5	16.0
2004	9	28	12:15:24	35.761	-120.307	6.0	0.5
2004	9	28	12:15:24	35.818	-120.366	6.0	8.6

Source: United States Geological Survey 2013. Online website for Earthquakes Hazards Program, Circular Area Earthquake Search tool (center latitude 35.21, center longitude -120.85, outside radius – 160.93).
http://earthquake.usgs.gov/earthquakes/search/
Site accessed May 7, 2014.

3.1 GENERAL PLANT INFORMATION

DCPP is a nuclear-powered steam electric generating facility that began commercial operation on May 7, 1985 for Unit 1 and March 13, 1986 for Unit 2. Each unit is powered by a Westinghouse pressurized water reactor (PWR). Unit 1 produces a reactor core power of 3,411 megawatts-thermal; Unit 2 produces 3,411 megawatts-thermal. The design net electrical capacities are 1,138 and 1,147 megawatts-electric for Units 1 and 2, respectively. Figure 3.1-1 depicts the site layout.

The following subsections provide information on the reactor and containment systems, the cooling and auxiliary water systems, and the electric transmission system. Additional information about DCPP is available in the following documents:

- Final Environmental Statement (FES) for operation of the plant (Reference 2),
- Generic Environmental Impact Statement for License Renewal of Nuclear Plants
  (References 3 *and 8*), and

4.0.2 DISCUSSION OF UPDATED GEIS LICENSE RENEWAL CATEGORIES

Radionuclides Released to Groundwater

As discussed in Chapter 5, tritium groundwater sampling was initiated at DCPP in ~~2003~~ *2006* through the Radiological Environmental Monitoring Program (REMP). Results of this monitoring program are submitted to local, State, and Federal agencies on an annual basis.

Enclosure 5
PG&E Letter DCL-15-027

Regulatory Commitments

Pacific Gas and Electric Company (PG&E) is making the following new regulatory commitment (as defined by NEI 99-04) in this submittal:

Commitment	Due Date
PG&E is currently scheduled to complete an evaluation of the 2015 seismic hazard results on the Severe Accident Mitigation Alternative (SAMA) analysis by June 2015.	June 2015